

## NRG@SC23: Nov. 9-11, 2023



**November 9, 2023, 11:30 a.m. to 5:30 p.m.: Jet Lag Day (detailed agenda on page 5):** Thirteen international delegates and hosts will tour the National Center for Atmospheric Research (**NCAR**) in Boulder, Colorado as guests of Daniel Howard (HPC Engineer) and Wenfu Tang (Project Scientist). Pick-up at 11:30 a.m. and drop off will be at the Convention Center. Lunch sponsored by Google.

### **Friday, November 10, 2023, 1p.m. to 5 p.m. MTN Pre-Conference Workshop Room 203 of the Colorado Convention Center.**

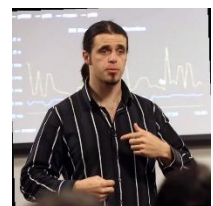
**1-2:30 p.m. Check-in, welcome and orientation for 37 US and international delegates.** Elizabeth Leake, Founder and Director of STEM-Trek Nonprofit. Our fifth workshop to be co-located with the annual Supercomputing Conference, NRG@SC23, will explore a variety of topics that will resonate with those who support high-performance computing in resource-constrained environments.



**2:30-3:00 p.m. Be safe while visiting Denver –** Denver FBI Field Office outreach agents will share 5-10 minutes on the topic of physical security while visiting Denver, and the balance of time highlighting FBI cyber careers.

### **3:00-3:15 break**

**3:15- 3:45 Alexander Scammon (Head of Open-Source Development) G-Research.** Placeholder text: Currently, I'm leading a large and intrepid band of open-source engineers engaged in a number of philanthropic upstream contributions on behalf of G-Research. Our work centers around open-source data science, machine learning tools and the MLOps and HPC infrastructure to support those tools at scale. We're almost certainly hiring. As part of this work, I'm also leading a discussion around batch scheduling on Kubernetes as the chair of the CNCF's Batch Working Group. Please reach out if this is an area of interest for you -- we'd love to have more voices at the table!





**3:45-4:15 Greg Landwehr (Senior Engineer), Scatec ASA Wind Energy Solutions,**

**South Africa.** Greg Landwehr works as the Principal Wind Engineer at Scatec, a Norwegian renewable energy company with their Engineering and Technology

Division based in Cape Town. As a professional engineer, he provides technical input into all aspects of Wind Farm Development towards construction and eventually operation. Greg is passionate about wind energy meteorology and is currently working towards completing his PhD on the topic of wind energy production as it relates to climate change.



**4:15-4:45:** Judith Vidal, National Renewable Energy Laboratory (NREL), Golden,

Colorado. Since Dr. Vidal joined NREL in 2010, she has established an international reputation for her cutting-edge work on thermal systems. In performing that research,

she built first-class capabilities such as the Thermal Storage Materials Laboratory and the Thermal Systems Process and Components Laboratory at NREL for measuring the full range of thermophysical material properties and performing material degradation evaluations. Dr. Vidal is also a joint faculty member at the Colorado School of Mines.

**4:45-5:30 p.m. Introductions.** Attendees from six countries and 11 US states will share a bit about themselves, their work and the region they serve. Each will share their top three challenges with procuring, powering and facilitating research computing, and plot their locations on a map. Energy trends and challenges in each region will be discussed.



**6-8:30 p.m. Mixer sponsored by Amazon Web Services, The [Yard](#)**

**[House](#) restaurant located in the Sheraton Downtown Denver.** We

will have one van (12), and others may walk .4 miles or take an Uber.

A map is available on the invitation (see page six of this document).

An assortment of delicious appetizer platters and pizzas will be

waiting for us; open bar and refreshments will be served. A private

room ensures that our event will be a good chance to mix! Bring your badge for admission – by invitation only. Hosts: Tanya and Kennedy.

**November 11, 2023, 11 a.m. to 5:30 p.m. MTN Pre-Conference Workshop  
Room 203 of the Colorado Convention Center**

**11 a.m. to 12:00 p.m. The PAIN Panel - Facilitator: Senzo Mpungose,**

Operations Manager (U-Witwatersrand). Invited panelists: Martilio Rafael Banze (Mozambique/MoRENet); Happy Sithole (South African Centre for HPC/NICIS and CSIR); Ben Rogers (Experience as Director of Research Computing and Executive Director of Enterprise Technology Infrastructure at U-Iowa); Honggao Liu (Texas A&M Executive Director, High Performance Research Computing). Center directors share unexpected events that hijacked their time, budget and/or staff. What strategies worked, and what should be avoided when navigating Power, Access (\$), Interoperability, and Network pitfalls. Learn from a panel with more than 90 years of collective expertise! Each panelist will present for ten minutes (five slides) before answering questions from the audience.



**12:00-1:00 Lunch (Box lunches and networking)** Sponsored by VAST Data – a representative from VAST Data will provide a lunchtime overview of their products. Grab a box lunch and enjoy the talk! Sit by someone you've never met – mix it up!

**1:00-1:15 group photo**

**1:15-1:45 p.m. Shelley Knuth, U-Colorado at Boulder (Asst. Vice Chancellor**

**and Director)**, U.S. National Science Foundation's Office of Advanced Cyberinfrastructure (NSF-OCI) ACCESS (Advanced CI Coordination Ecosystem: Services & Support). As Principal investigator of the ACCESS portfolio of resources and services, Dr. Knuth will explain what's available to the US research community, how to obtain "credits" and more.



**1:45-2:15 Honggao Liu, PI and Project Director, U.S. NSF ACES.** ACES

(Accelerating Computing for Emerging Sciences), an innovative composable testbed developed by Texas A&M University, incorporates a variety of novel accelerators and Optane memory to glean new insights by rapidly processing large volumes of data.

ACES provides researchers with a unique composable platform to produce complex hybrid programming models for high performance computing and artificial intelligence tasks capable of achieving unprecedented precision, speed and efficiency. ACES is available to the US research community via NSF ACCESS.

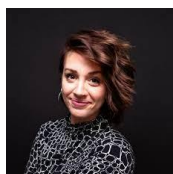
**2:15-2:45 AmLight - Vasilka Chergarova, IT Asst. Director**, Florida International University Center for Internet Augmented Research and Assessment (CIARA). Dr. Chergarova will present on both AmLight (NSF investment in the South Atlantic Cable infrastructure between Southern Africa and Brazil), and the Open Science Grid in Africa, and the U.S., and how OSG interacts with the European Grid Infrastructure, and beyond.



**2:45-3:15 Umesh Upadhyaya, HPC Nepal.** Nepal seeks to grow its HPC footprint – research drivers are kindred with others who typically attend this workshop – for example, climate, hydrology, seismology, wildlife conservation, geochemical engineering, and many more domains. An abundance of snowpack in the Himalayan Mountains makes hydro-energy of particular interest.

### 3:15-3:30 Break

**3:30-4:00 Daniel Howard (NCAR).** The National Center for Atmospheric Research in Boulder supports a wide range of environmental research. Howard will share specific examples that are conducted with regional collaborators including the C3+3 collective, Boise State University and others: Wildfire mitigation, cloud-seeding for hydropower and agricultural outcomes, and more.



**4:00-5:00 Workforce Development Panel. Facilitator Carlie Oakenshield (SWOSU),** with panelists: Umesh Upadhyaya (HPC Nepal); Jason Watt (Boise State; C3+3), Joe Leister (U-Idaho; C3+3), and Michael Ennis (Idaho State University; C3+3); Bryan Johnston (CHPC South Africa/Ecosystems); Berny Chiamite (Mozambique/MoRENet); Martilio Rafael Banze (Mozambique/MoRENet); Mmabatho Hashatsi (CHPC South Africa); and Lara Timm (CHPC South Africa). Each project

will share a 5–8-minute presentation, followed by Q&A. Learn from the experience of initiatives that have repurposed decommissioned HPC systems, including HPC Nepal, C3+3 Idaho, and African HPC Ecosystems.

**5-5:30 Isango: Elizabeth Leake (STEM-Trek) and Kurt Keville (UMass-Boston).** Leake and Keville will provide an update on the “Isango” project that was showcased at PEARC22, IEEE HPEC22, and HPC-AI’23 on Wall Street (CXL Forum). Many of the original pioneers will be at NRG@SC23, so it’s a good chance to share a road map and vision for the future.



**5:30 closing remarks: Elizabeth Leake (STEM-Trek)**



## Jetlag Day Agenda, NCAR Mesa Lab in Boulder, Colorado:

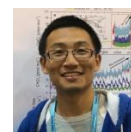
11:30 a.m. MT - Meet at the convention center depart 11:45 sharp.  
12:20 - 12:30pm MT - group arrives at NCAR Mesa Lab, brief welcome (Daniel Howard)  
12:30pm - 1:30pm MT - Lunch at Mesa Lab Cafeteria  
1:30pm – 3:30: Talks (see bios below).  
3:30pm MT - 30 min tour of museum with SPP (shortened since tours should end by 4)  
4:00pm MT - Hike and pictures along weather trail plus free time until departure

## NCAR talks (Bios from the NCAR website Staff Directory and other sources):



**Wenfu Tang (Project Scientist I; UCAR Africa Initiative).** Research focuses on fires, fire emissions, and their impacts on atmospheric composition and chemistry, using models, satellite retrievals, field measurements, and data assimilation. I also have a particular research interest in Africa air quality.

**Cenlin He (Project Scientist II; Land and water).** As an atmospheric scientist and modeler, I seek to understand the interaction between air pollution and weather/climate. I work with both modeling and measurement groups to improve global and regional model physics and chemistry, particularly in the fields of aerosol climatic effects, aerosol-snow/cloud-radiation interaction, snow and land surface modeling, land-atmosphere interactions, light scattering and radiative transfer, interactions between air pollution and weather/climate/ecosystem.



**Forrest Lacey (Project Scientist I; air quality forecast).** Forrest Lacey is a Project Scientist I with a shared position in ACOM and RAL that focuses on using models to link atmospheric impacts (e.g. climate, weather, air pollution) to quantifiable health outcomes. Past and current research has focused on development of the new Multi-Scale Infrastructure for Chemistry and Aerosols (MUSICA) in addition to WRF-Chem and WRF-CMAQ for estimates of ambient air pollution. Collaborations and funded work

with both the NIH and CDC have also led to current projects linking wildland fire activity and smoke exposure to health impacts throughout the western United States.

**Roelof Bruintjes (Principal Scientist - Early-Warning System).** Dr. Bruintjes is involved with a range of science including weather modification, wildfire mitigation and more.

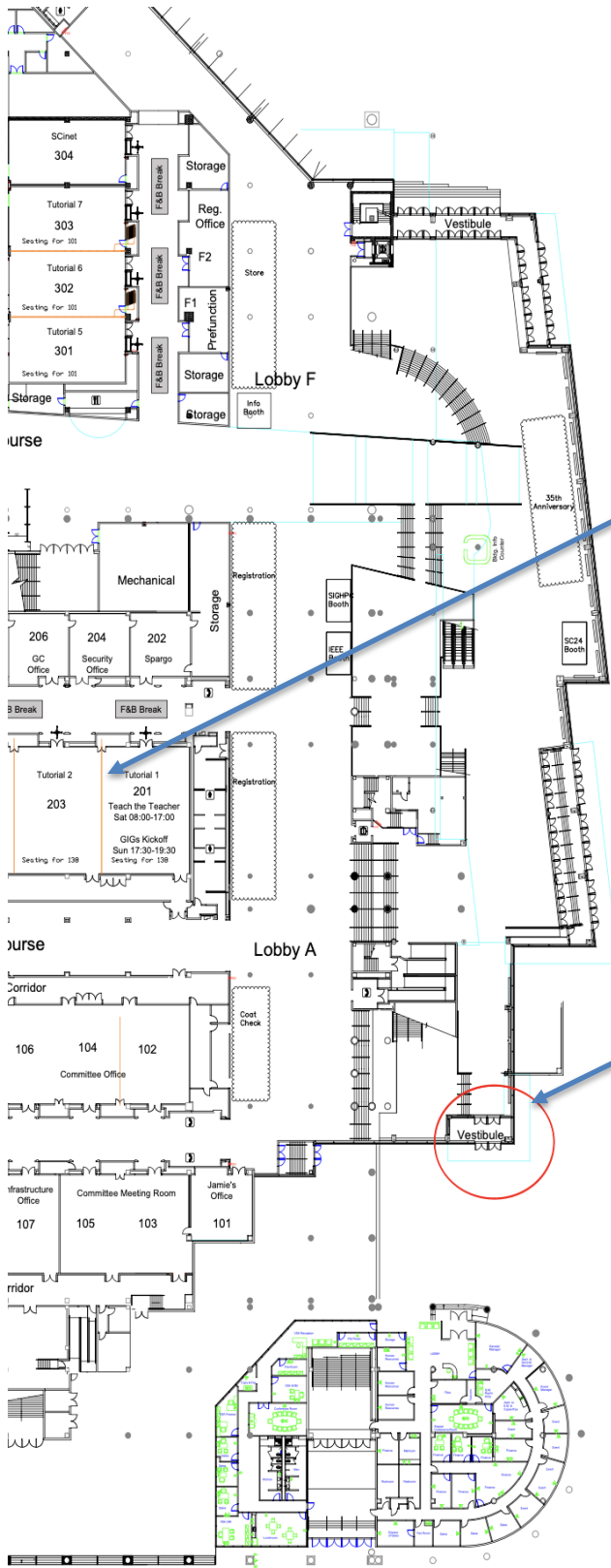
[\(328\) UCAR Africa Initiative Seminar 2 \(Sep-14-2023\): Early Warning Systems for Africa - YouTube](#)  
[Is weather control a dream or nightmare? \(snexplores.org\)](#)



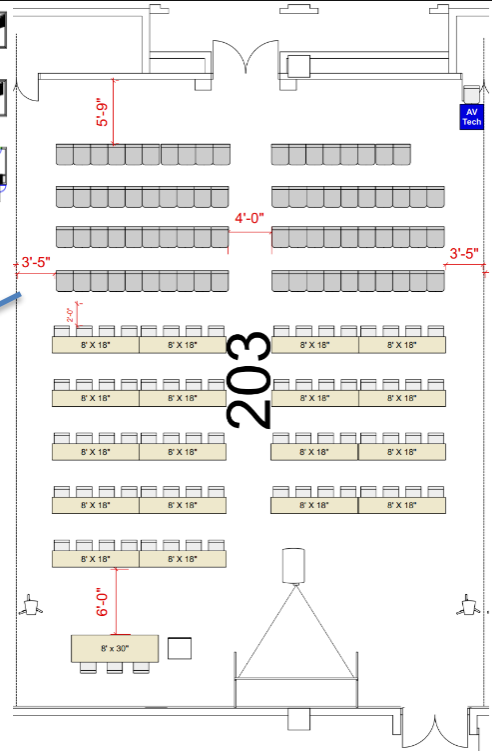
**Zhe Zhang (Postdoctoral Fellow I; Sustainability/Agriculture).** Dr. Zhang is a postdoctoral researcher at NCAR. He received his PhD in Environment and Sustainability from the University of Saskatchewan in Canada. His research focuses on the impacts of climate change on the water cycle and ecosystems in North America, with special interests in ground water resources and prairie wetlands. During his PhD, he completed an internship with Ducks Unlimited Canada, where he applied results from climate models to ecological studies and conservation strategies.

Agbeli Ameko is an associate scientist in the Computational Information Systems Laboratory (CISL) at NCAR. He has 20 years of experience in commercial weather forecasting, international business development, renewable energy, sensors, and data science. In CISL, Ameko works on creating a user-friendly 3D Printed Weather Station platform with Raspberry Pi embedded weather forecasting for use in education, outreach, and field programs.





We meet in room 203 on Nov. 10-11



**NRG@SC23, takes place before the full SC conference, so not all doors to the convention center will be open, and security is limited. Be sure to enter here!!!**

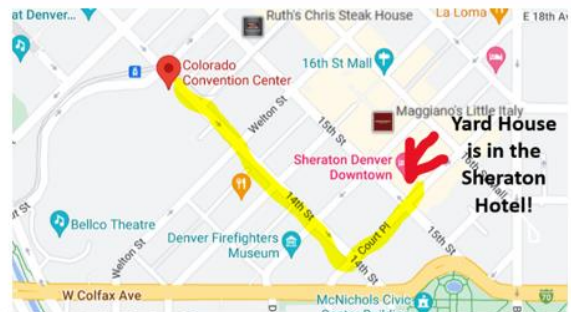


You're invited to a...

# PRIVATE PARTY!



Sheraton Hotel, Yard House Restaurant  
1555 Court Pl, Denver, CO 80202  
Friday, Nov. 10, 2023  
6-8:30 p.m. MTN



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